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(71) 出願人 000001476

株式会社カンセイ

埼玉県大宮市日進町2丁目1910番地

(72) 発明者 小川哲司

埼玉県大宮市日進町2丁目1910番地 株式
会社カンセイ内

(72) 発明者 小林 茂

埼玉県大宮市日進町2丁目1910番地 株式
会社カンセイ内

(74) 代理人 弁理士 本多 小平 (外3名)

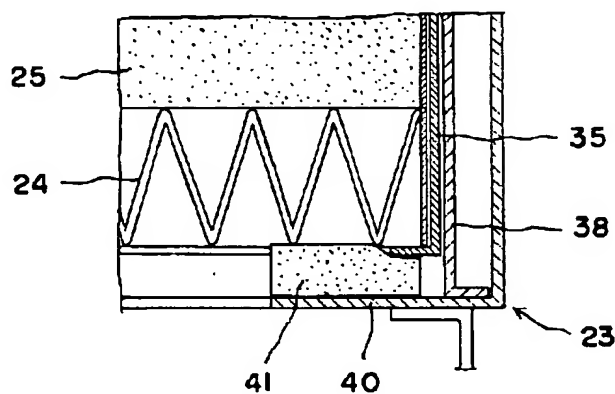
(54) 【発明の名称】 空気清浄器付灰皿

(57) 【要約】

【目的】 汚れたフィルタの交換作業を容易ならしめることができる空気清浄器付灰皿の開発。

【構成】 空気清浄器の吸気側開口部辺縁に、該吸気側開口部に取付けられるフィルタ24の辺縁一部をマスキングするための鏝部40を形成する。

【効果】 フィルタの辺縁一部に汚染されない個所があるので、この汚染されていない部分を掴んで該フィルタの取外しが可能であって、フィルタ交換作業者の手を汚すことがない。



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【特許請求の範囲】

【請求項1】 受器（11）と、該受器の上部に保持させる空気清浄器（21）を有する空気清浄器付灰皿において、上記空気清浄器（21）は、吸気口となる下側開口部（21B）及び吐気口となる上側開口部（21A）を有すると共に、内部にフィルタユニット（26）と送風機（27）を組付け、さらに上記下側開口部（21B）の辺縁に、フィルタユニット（26）の辺縁一部に当接されて、該辺縁一部の通気性を阻止するための罅部（40）を形成した筒状ケース（23）を有していることを特徴とする空気清浄器付灰皿。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、喫煙場所等に設備される空気清浄器付灰皿に関するものである。

【0002】

【従来の技術】 空気清浄器を組合せた灰皿の従来構造としては、例えば特開昭55-70321号が開示されている。

【0003】 この公知例構造は、図1に示すように、下側の吸気口1を設け、上側に吐気口2を設けたケーシング3内に、送風ファン4を設けると共に、このケーシング（3）内の上記吸気口1に近設する位置に、集塵脱臭フィルタ5を着脱可能に内装する空気清浄器6を、スタンド7によって支持せしめ、さらにその空気清浄器6の真下に灰皿8を設置する構造となして、この灰皿8内にタバコの吸殻を入れたとき、その吸殻から生じる煙は、空気清浄器6内における送風ファン4駆動力で空気清浄器内へ吸引されて、煙の集塵脱臭処理がなされることを期待しているものである。

【0004】

【発明が解決しようとする課題】 ところが上記空気清浄器6の吸気口1に取付けられている集塵脱臭フィルタ5は、長時間（長期間）の使用によってその集塵、脱臭効率が低下するために所定期間毎にそのフィルタ5を交換する必要がある。

【0005】 このフィルタの一般的交換作業は、その作業者が直接にフィルタ5を握持してケーシング3より取り外すことから始まるが、交換すべきフィルタ5の全面にタバコの脂が付着されていることから、そのフィルタを交換する際に、上記脂によって作業者の手が汚されて、不快感や交換作業の困難性が生じるという問題点があった。

【0006】

【課題を解決するための手段】 本発明はかかる問題点に着目してなされたもので、空気清浄器に組込まれるフィルタの辺縁一部にその空気清浄器の器枠の一部が気密に当接される構造となして、フィルタ一部分の通気を阻止して該不通気部分の汚損を防止するものである。

【0007】 従ってフィルタの交換作業時には、そのフ

イルタの汚損されていない部分を掴んでフィルタの交換等を行えば、作業者の手を汚すことなくフィルタ交換作業を円滑に行なうことができる。

【0008】

【実施例】 以下に本発明を図面に示す実施例に基いて詳細に説明する。

【0009】 先ず本実施例の空気清浄器付灰皿の全体構造について図2を基にして説明する。

【0010】 11は上面が開口する受器であって、この受器11内には、吸殻容器12及び屑入れ13を収納することができる。またこの受器11の側面には、上記吸殻容器12を出し入れするための開口部14及び屑入れ13を出し入れするための開口部15が設けられている。また受器11の内部は、灰皿12と屑入れ13間を仕切る仕切壁16が取付けられている。

【0011】 17は受器11の上側開口部に被せられる漏斗状の灰受け板であって、この灰受け板17の中央開口部には吸殻を吸殻容器12内へ案内するガイド板18が取付けられている。さらにその灰受け板17上には多数のスリット19を周方向に形成した火消し板20が被着されている。

【0012】 21は空気清浄器であって、この空気清浄器21は、前記の受器11の真上に、複数の支持杆22によって隔設保持されている。

【0013】 空気清浄器21は、上側開口部21Aと下側開口部21Bを有する筒状のケース23内の下部に、集塵フィルタ24及び脱臭フィルタ25を有するフィルタユニット26が下側開口部を塞ぐようにして内装保持されており、さらにそのケース23内上部には、軸流送風機27が取付けられている。

【0014】 さらに筒状ケース23の上側開口部上には、隔設片28を介して上板29が固定されているが、この上板の外径は、前記筒状ケース23の外径よりも大きく設定し、さらにその上板29の周縁からは下方へ延びる罅部30が形成されている。

【0015】 31は前記開口部14及び15を開閉する扉、33は屑物投入のための扉を示す。

【0016】 前記フィルタユニット26の構成は、図3に示す如くであって、方形のフィルタユニット枠35内に前記集塵フィルタ24と脱臭フィルタ25が嵌め込まれている。この図3に示す態様はフィルタユニット26を上下逆にして図示したものである。つまりフィルタユニット26を構成するときは、フィルタユニット枠35を上下に逆にした状態で先ずそのユニット枠35内に脱臭フィルタ25を嵌め込み、次いでその脱臭フィルタ25上に重ねてユニット枠35内に集塵フィルタ24を図4で示す如くその一部24'を撓ませてユニット枠35辺縁に嵌着して、フィルタユニット26を構成する（図5参照）。次いでこのフィルタユニット26を前記筒状ケース23内に組込むときは、その集塵フィルタ24が

3

下側となるように逆にして組付けるものである。

【0017】なおそのユニット枠35の外側には、フィルタユニット26の着脱を行なうときに使用する取手36と、ガイドピン37が設けられている。

【0018】また前記筒状ケース23のフィルタユニット収納部内には、図6で示す如き上下開口の筒状のフィルタケース38が取付けられており、このフィルタケース38内の一対の壁面には前記のガイドピン37が案内される山形のガイドレール39が形成されている。また前記筒状ケース23に形成されている下側開口部21Bの辺縁にはフィルタユニットの辺縁一部をマスキングするための銑部40が下側開口部内側に張り出すようにして形成されており、この銑部40上にはウレタン等のシール部材41が取付けられている。(図7、図8参照)

以上が本実施例の構成であるが、次にその作用について述べると、まず空気清浄器21の筒状ケース23内にフィルタユニット26を挿入するが、この挿入作業は、扉34を開き、この開口部より図5に示されているフィルタユニット26を筒状ケース23内に差し込む。この差し込み時においてフィルタユニット26の両側面に突設されているガイドピン37がフィルタケース38の内側面に形成されている山形のガイドレール39に沿って案内されるため、その差し込み途中においてはフィルタユニット26がやや押し上げられ、差し込みが完了する直前でやや降下されるために、この降下作用によってフィルタユニット26の辺縁一部、つまり図5の鎖線で示す部分24"が、筒状ケース23内にすでに取付けられているシール部材41に下方向から接合されて、そのフィルタユニット26の差し込みが終了する。

【0019】そこで喫煙される灰又は吸殻等を火消し板20の中央に形成されている透孔から投入すると、この灰、吸殻等は灰受け板17の斜面及びガイド板18を滑り落ちて灰皿12内に落し込まれる。

【0020】そこで送風機27を駆動すると、筒状ケース23の下側開口部から上側開口部に向う気流が生じ、この気流によって、前記灰皿12から立昇る煙が筒状ケース23内へ吸い込まれる。この筒状ケース23内に吸い込まれる煙は、フィルタユニット26を通過することで集塵脱臭がなされ、筒状ケース23の上側開口部から筒状ケース23外へ送り出されるが、この筒状ケース23外へ送り出される空気は、上板29に設けられている銑部30による流方向規制作用によって、矢印で示すように筒状ケース23の外側面に沿って下方向へ流れて、空気清浄器21の下部と前記吸殻容器11の上部との間部へ至る。この間部に達した空気は再度空気清浄器21内に吸い込まれるため空気は繰返しフィルタユニット26内を通過(循環)するので、空気の清浄化が確実となり、煙の拡散が有効に防止されるものであるが、本実施例にあっては、空気清浄器における吸気口である下側開

4

口部21Bにその下側開口部21Bの中央方向へ張出す銑部40を設け、この銑部40に、シール部材41を介してフィルタユニット26の辺縁一部24'を当接せしめて、該辺縁一部24'において通気されないようにしたものであるから、この辺縁一部24'は煙の脂等によって汚染されることがない。

【0021】従って集塵フィルタの交換時に、その集塵フィルタ24をフィルタユニット枠35から取外するとき、その汚染されていない箇所(24')を掴むことにより作業者の手を汚すことなく、そのフィルタ交換作業が容易に行なうことができる。

【0022】

【発明の効果】以上のように本発明は、受器11と、該受器の上部に保持させる空気清浄器21を有する空気清浄器付灰皿において、上記空気清浄器21は、吸気口となる下側開口部21B及び吐気口となる上側開口部21Aを有すると共に、内部にフィルタユニット26と送風機27を組付け、さらに上記下側開口部21Bの辺縁に、フィルタユニット26の辺縁一部に当接されて、該辺縁一部の通気性を阻止するための銑部40を形成した筒状ケース23を有している空気清浄器付灰皿であるから、これによれば、上記筒状ケースの下側開口部に形成した銑部40によってフィルタユニット26の辺縁部一部の汚染が阻止されていることから、その汚染されていない部分を掴んでフィルタの交換作業を行なうことができ、これによって汚損されたフィルタの交換作業を作業者の手を汚すことなく容易に行なえるという効果がある。

【図面の簡単な説明】

【図1】従来の空気清浄器付灰皿を示した構造説明図。

【図2】本発明実施例の空気清浄器付灰皿を示した構造説明図。

【図3】本発明実施例のフィルタユニットの構成を示した斜視図。

【図4】本発明実施例のフィルタユニットを示す底面側斜視図。

【図5】本発明実施例のフィルタユニットを示す底面側斜視図。

【図6】本発明実施例のフィルタケースの構造説明図。

【図7】本発明実施例の吸気側開口部形状を示した平断面図。

【図8】本発明実施例の要部拡大断面図。

【符号の説明】

11…受器	12…吸殻容器
13…屑入れ	14…開口部
15…開口部	16…仕切壁
17…灰受け板	18…ガイド板
19…スリット	20…火消し板
21…空気清浄器	22…支持杆
23…筒状ケース	24…集塵フィルタ

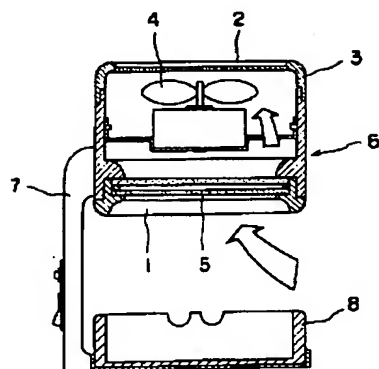
25…脱臭フィルタ
ット
27…送風機
29…上板
31…扉
33…扉

26…フィルタユニ
28…隔設片
30…罅部
32…扉
34…扉

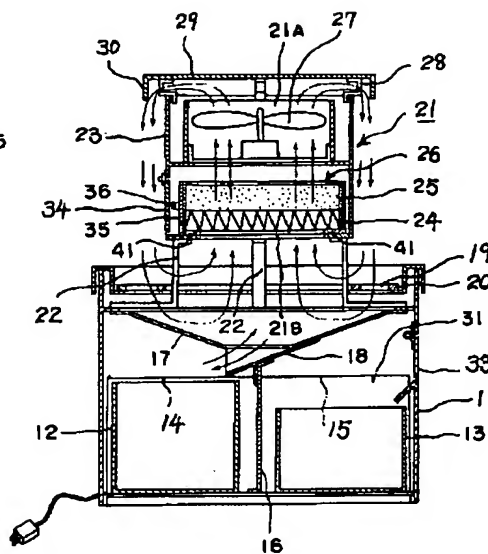
35…フィルタユニット枠
37…ガイドピン
ス
39…ガイドレール
41…シール部材

36…取手
38…フィルタケー
40…罅部

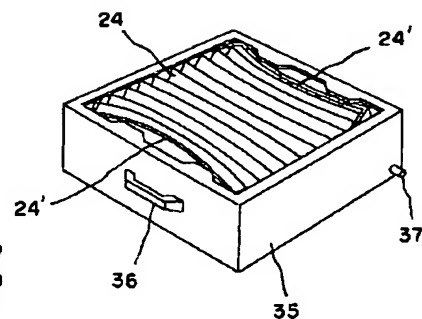
【図1】



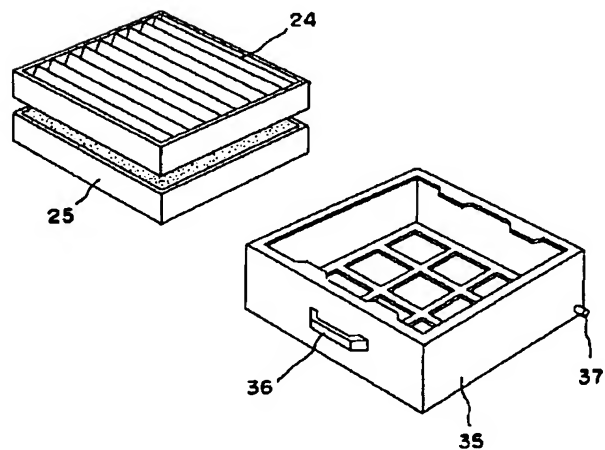
【図2】



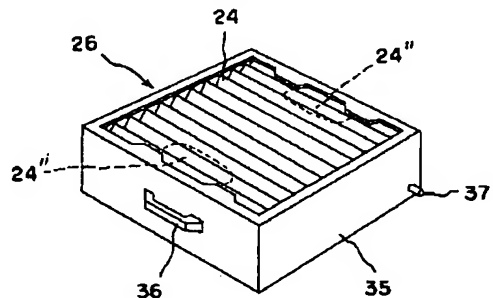
【図4】



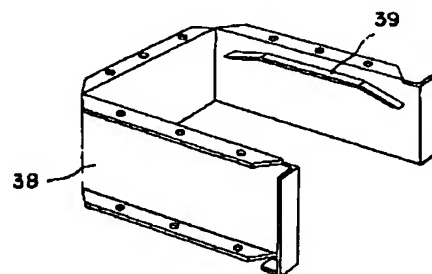
【図3】



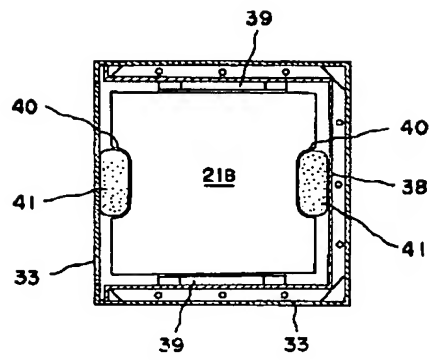
【図5】



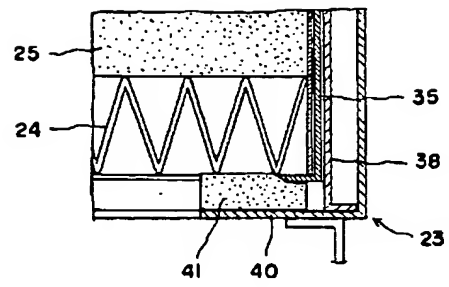
【図6】



【図7】



【図8】



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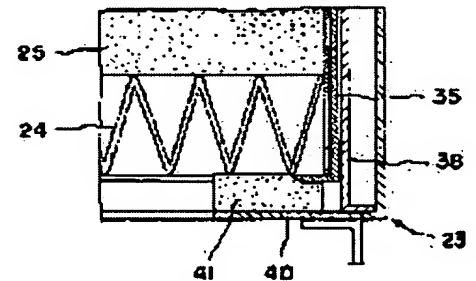
(72)Inventor : OGAWA TETSUJI
KOBAYASHI SHIGERU

(54) ASHTRAY EQUIPPED WITH AIR CLEANER

(57)Abstract:

PURPOSE: To provide an ashtray equipped with air cleaner, having a cylindrical case forming a flange part for masking a part of side edge of a filter attached to opening on suction side at the side edge of opening on suction side of an air cleaner, and capable of readily carrying out exchange operation of a filter without staining hands.

CONSTITUTION: This ashtray equipped with an air cleaner has a receiver and a air cleaner held on the upper part of the receiver. The air cleaner has an opening on lower side served as a suction port and an opening on upper side served as a discharge port and a cylindrical case 23 assembling a filter unit and a blower in the interior and further forming a flange part 40 for bringing into contact with a part of side edge of the filter unit and preventing air permeability of a part of side edge onto the side edge of the opening on the lower side.



LEGAL STATUS

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[Patent number]

[Date of registration]

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[Date of requesting appeal against examiner's decision of rejection]

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CLAIMS

[Claim(s)]

[Claim 1] In the ash pan with an air cleaner which has a receiver (11) and the air cleaner (21) made to hold in the upper part of this receiver the above-mentioned air cleaner (21) While having top opening (21A) used as bottom opening (21B) and nausea opening used as an inlet A filter unit (26) and a blower (27) are attached to the interior. Further to the verge of the above-mentioned bottom opening (21B) The ash pan with an air cleaner characterized by being contacted by the verge of a filter unit (26) part and having the tubed case (23) in which the flange (40) for preventing the permeability of this verge part was formed.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the ash pan with an air cleaner furnished to a smoking location etc.

[0002]

[Description of the Prior Art] As conventional structure of the ash pan which combined the air cleaner, JP,55-70321,A is indicated, for example.

[0003] As shown in drawing 1, while this well-known example structure forms a blower fan 4 in the casing 3 which formed the lower inlet 1 and formed the nausea opening 2 in the bottom. It makes with the structure of making the location installed near the above-mentioned inlet 1 in this casing (3) supporting the air cleaner 6 which carries out the interior of the dust collection odor removal filter 5 removable by the stand 7, and installing an ash pan 8 in it just under that air cleaner 6 further. When the cigarette end of tobacco is put in in this ash pan 8, the smoke produced from that cigarette end expects that it will be drawn in into an air cleaner with blower fan 4 driving force in an air cleaner 6, and dust collection deodorization processing of smoke will be made.

[0004]

[Problem(s) to be Solved by the Invention] However, the dust collection odor removal filter 5 attached in the inlet 1 of the above-mentioned air cleaner 6 needs to exchange the filter 5 for every predetermined period, in order for the dust collection and deodorization effectiveness to fall by use of a long time (long period of time).

[0005] Although it began from that operator supporting a filter 5 directly and removing from casing 3, since it adhered to the fat of tobacco all over the filter 5 which should be exchanged, when the general exchange activity of this filter exchanged that filter, an operator's hand was soiled by the above-mentioned fat and it had the trouble that displeasure and the difficulty of exchange arose.

[0006]

[Means for Solving the Problem] This invention was made paying attention to this trouble, is made with the structure where a part of **** of the air cleaner is airtightly contacted by the verge of the filter built into an air cleaner part, prevents the aeration of a filter part, and prevents dirt of this interruption mind part.

[0007] Therefore, at the time of exchange of a filter, if the part with which the filter is not soiled is held and exchange of a filter etc. is performed, a filter exchange activity can be done smoothly, without soiling an operator's hand.

[0008]

[Example] This invention is explained to a detail based on the example shown in a drawing below.

[0009] The whole ash pan structure with an air cleaner of this example is first explained based on drawing 2.

[0010] A top face is the receiver which carries out opening, and 11 can contain the cigarette end container 12 and a trash box 13 in this receiver 11. Moreover, the opening 15 for taking opening 14 and the trash box 13 for taking the above-mentioned cigarette end container 12 in and out in and out is formed in the side face of this receiver 11.

Moreover, the bridge wall 16 with which the interior of a receiver 11 divides between an ash pan 12 and a trash box 13 is attached.

[0011] 17 is a funnel-like ash pan kick plate put on top opening of a receiver 11, and the guide plate 18 which guides a cigarette end into the cigarette end container 12 is attached in central opening of this ash pan kick plate 17. Furthermore on the ash pan kick plate 17, the fireman plate 20 in which many slits 19 were formed to the hoop direction is put.

[0012] 21 is an air cleaner and **** maintenance of this air cleaner 21 is carried out with two or more support levers 22 right above the aforementioned receiver 11.

[0013] As the filter unit 26 which has the dust collection filter 24 and an odor removal filter 25 in the lower part within the tubed case 23 where it has top opening 21A and bottom opening 21B plugs up bottom opening, interior maintenance of the air cleaner 21 is carried out, and the axial blower 27 is further attached in the upper part within the case 23.

[0014] Although the superior lamella 29 is furthermore being fixed through the piece 28 of **** on top opening of the

tubed case 23, the outer diameter of this superior lamella is set up more greatly than the outer diameter of said tubed case 23, and the flange 30 prolonged to a lower part is further formed from the periphery of that superior lamella 29.

[0015] The door at which 31 opens and closes said openings 14 and 15, and 33 show the door for a scrap injection.

[0016] As the configuration of said filter unit 26 is shown in drawing 3, said dust collection filter 24 and odor removal filter 25 are inserted in in the rectangular filter unit frame 35. The mode shown in this drawing 3 makes a filter unit 26 vertical reverse, and illustrates it. that is, when a filter unit 26 is constituted, where the filter unit frame 35 is made reverse up and down, an odor removal filter 25 is first inserted in in the unit frame 35, and, subsequently to in the unit frame 35, drawing 4 R> 4 shows the dust collection filter 24 repeatedly on the odor removal filter 25 -- as -- the part -- 24' is sagged, it attaches in unit frame 35 verge, and a filter unit 26 is constituted (R> drawing 5 5 reference). Subsequently, when incorporating this filter unit 26 in said tubed case 23, it is made reverse and attaches so that that dust collection filter 24 may serve as the bottom.

[0017] In addition, Toride 36 used when detaching and attaching a filter unit 26, and a guide pin 37 are formed in the outside of the unit frame 35.

[0018] Moreover, in the filter unit stowage of said tubed case 23, the tubed filter case 38 of **** vertical opening shown by drawing 6 attaches, and is kicked, and the guide rail 39 of Yamagata to which it is shown to the aforementioned guide pin 37 is formed in the wall surface of the pair within this filter case 38. Moreover, as the flange 40 for masking the verge of a filter unit part *****s to a bottom opening circles side, it is formed in the verge of bottom opening 21B currently formed in said tubed case 23, and the seal members 41, such as urethane, are attached on this flange 40. (Refer to drawing 7 and drawing 8)

Although a filter unit 26 will be first inserted into the tubed case 23 of an air cleaner 21 if that operation is described below, although the above is the configuration of this example, this insertion opens a door 34 and it inserts the filter unit 26 shown in drawing 5 from this opening in the tubed case 23. Since the guide pin 37 which protrudes on the both-sides side of a filter unit 26 at the time of this plug is guided along with the guide rail 39 of Yamagata currently formed in the medial surface of a filter case 38, In order to descend a little just before a filter unit 26 is pushed up a little in the middle of the plug and a plug is completed Partial 24" shown by the verge of a filter unit 26, i.e., the chain line of drawing 5, part is joined to the seal member 41 already attached in the tubed case 23 by this descent operation from down, and the plug of that filter unit 26 is completed according to it.

[0019] Then, if ashes or a cigarette end smoked is thrown in from the bore currently formed in the center of the fireman plate 20, these ashes, a cigarette end, etc. will slide down the slant face and guide plate 18 of the ash pan kick plate 17, and will be dropped into an ash pan 12.

[0020] Then, if a blower 27 is driven, the other air current will arise from bottom opening of the tubed case 23 in top opening, and ***** will be absorbed by this air current into the tubed case 23 from said ash pan 12. Although dust collection deodorization is made by passing a filter unit 26 and the smoke absorbed in this tubed case 23 is sent out out of the tubed case 23 from top opening of the tubed case 23 According to the flow direction regulation operation by the flange 30 prepared in the superior lamella 29, the air sent out out of this tubed case 23 flows downward along with the lateral surface of the tubed case 23, as an arrow head shows, and it results to Mabe, the lower part of an air cleaner 21, and the upper part of said cigarette end container 11. Although defecation of air becomes certain and diffusion of smoke is effectively prevented since the air which reached this Mabe is again inhaled in an air cleaner 21, and air passes through the inside of the repetition filter unit 26 (circulation) If it is in this example, the flange 40 jutted out over bottom opening 21B which is an inlet in an air cleaner in the direction of a center of the bottom opening 21B is formed. this flange 40 -- the seal member 41 -- minding -- the verge of a filter unit 26 part -- 24' is contacted -- making -- this verge part -- since aeration is made not to be carried out in 24' -- this verge part -- 24' is not polluted by the fat of smoke etc.

[0021] Therefore, the filter exchange activity can carry out easily, without soiling an operator's hand by holding the part (24') which is not polluted, when demounting the dust collection filter 24 from the filter unit frame 35 at the time of exchange of a dust collection filter.

[0022]

[Effect of the Invention] In the ash pan with an air cleaner in which this invention has a receiver 11 and the air cleaner 21 made to hold in the upper part of this receiver as mentioned above the above-mentioned air cleaner 21 While having top opening 21A used as bottom opening 21B and nausea opening used as an inlet A filter unit 26 and a blower 27 are attached to the interior. Further to the verge of the above-mentioned bottom opening 21B Since it is the ash pan with an air cleaner which has the tubed case 23 in which the flange 40 for being contacted by the verge of a filter unit 26 part and preventing the permeability of this verge part was formed, according to this From contamination of the side edge of a filter unit 26 part being prevented by the flange 40 formed in bottom opening of the above-mentioned tubed case The part which is not polluted can be held, exchange of a filter can be performed, and it is effective in the ability to perform easily exchange of the filter soiled by this, without soiling an operator's hand.

[Translation done.]

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PRIOR ART

[Description of the Prior Art] As conventional structure of the ash pan which combined the air cleaner, JP,55-70321,A is indicated, for example.

[0003] As shown in drawing 1 , while this well-known example structure forms a blower fan 4 in the casing 3 which formed the lower inlet 1 and formed the nausea opening 2 in the bottom It makes with the structure of making the location installed near the above-mentioned inlet 1 in this casing (3) supporting the air cleaner 6 which carries out the interior of the dust collection odor removal filter 5 removable by the stand 7, and installing an ash pan 8 in it just under that air cleaner 6 further. When the cigarette end of tobacco is put in in this ash pan 8, the smoke produced from that cigarette end expects that it will be drawn in into an air cleaner with blower fan 4 driving force in an air cleaner 6, and dust collection deodorization processing of smoke will be made.

[Translation done.]

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MEANS

[Means for Solving the Problem] This invention was made paying attention to this trouble, is made with the structure where a part of **** of the air cleaner is airtightly contacted by the verge of the filter built into an air cleaner part, prevents the aeration of a filter part, and prevents dirt of this interruption mind part.
[0007] Therefore, at the time of exchange of a filter, if the part with which the filter is not soiled is held and exchange of a filter etc. is performed, a filter exchange activity can be done smoothly, without soiling an operator's hand.

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DESCRIPTION OF DRAWINGS

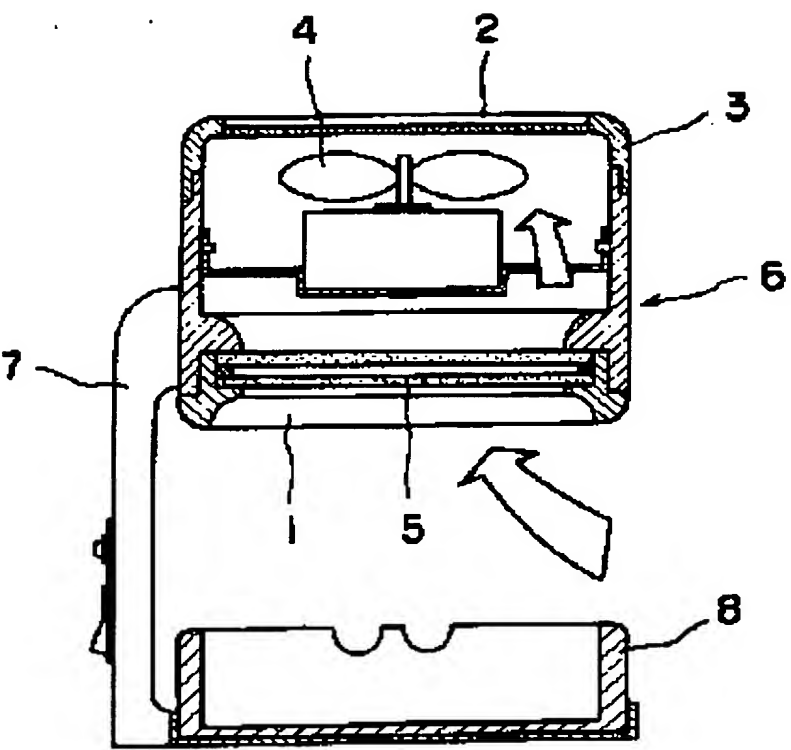
[Brief Description of the Drawings]

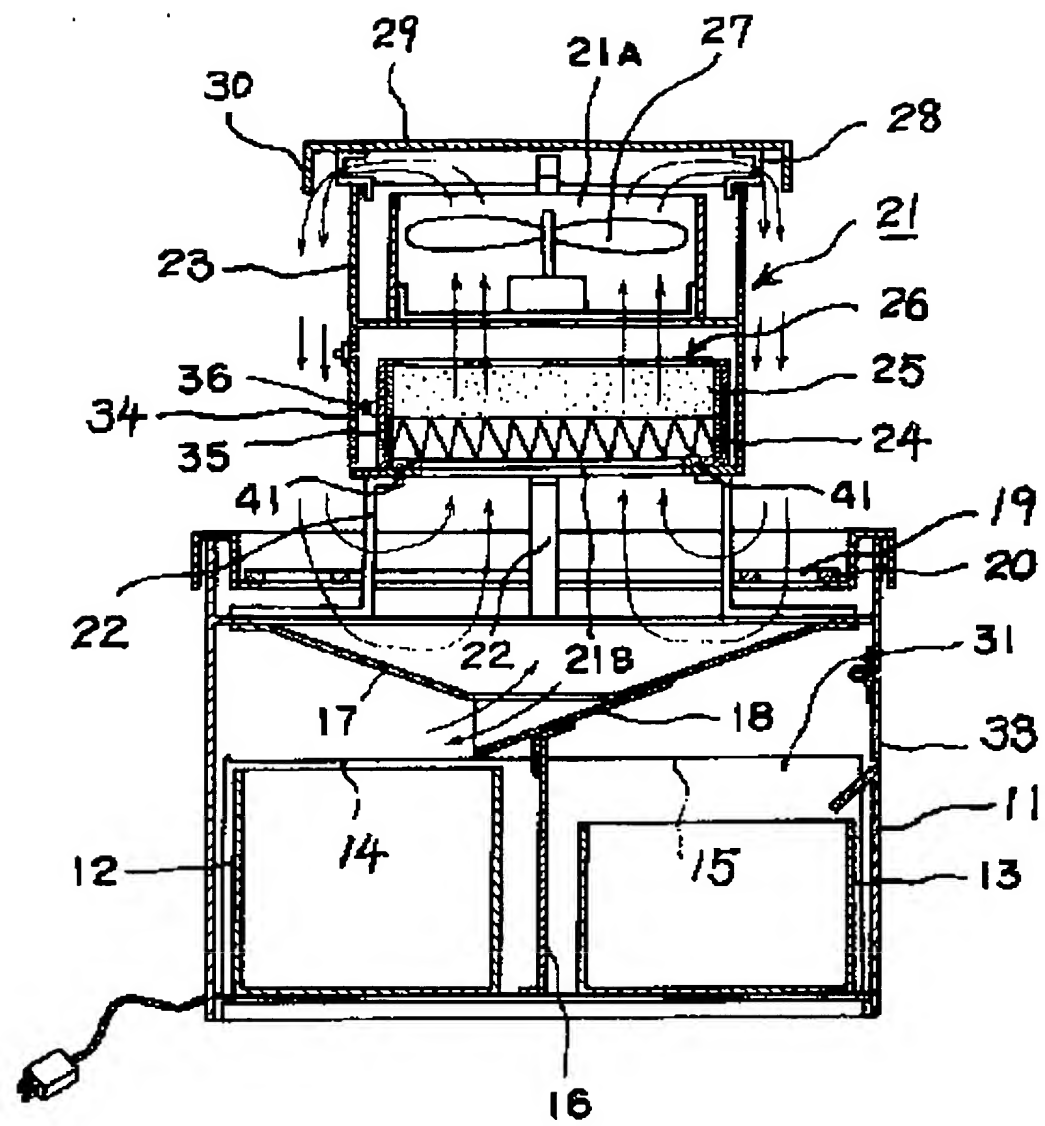
- [Drawing 1] The structure explanatory view having shown the conventional ash pan with an air cleaner.
[Drawing 2] The structure explanatory view having shown the ash pan with an air cleaner of this invention example.
[Drawing 3] The perspective view having shown the configuration of the filter unit of this invention example.
[Drawing 4] The base side perspective view showing the filter unit of this invention example.
[Drawing 5] The base side perspective view showing the filter unit of this invention example.
[Drawing 6] The structure explanatory view of the filter case of this invention example.
[Drawing 7] The plane section Fig. having shown the inspired air flow path opening configuration of this invention example.
[Drawing 8] The important section expanded sectional view of this invention example.

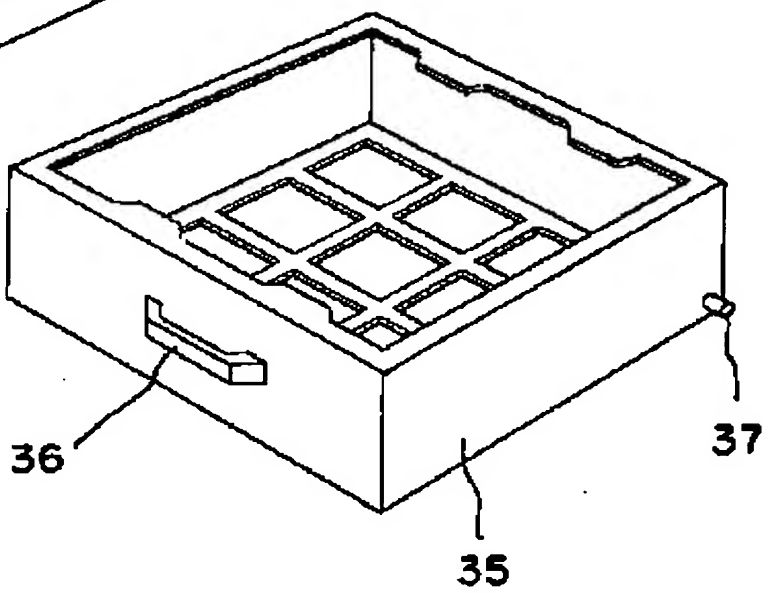
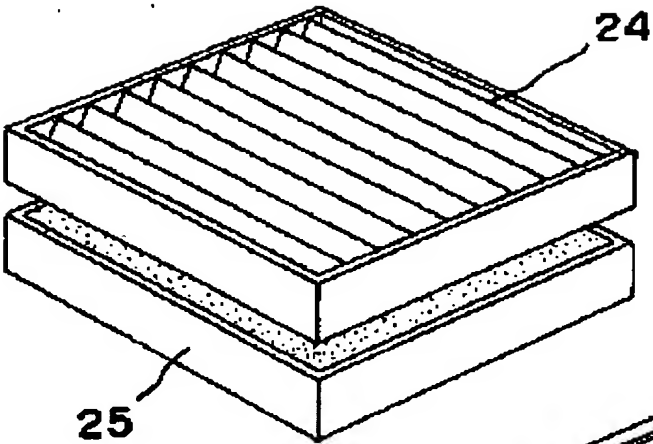
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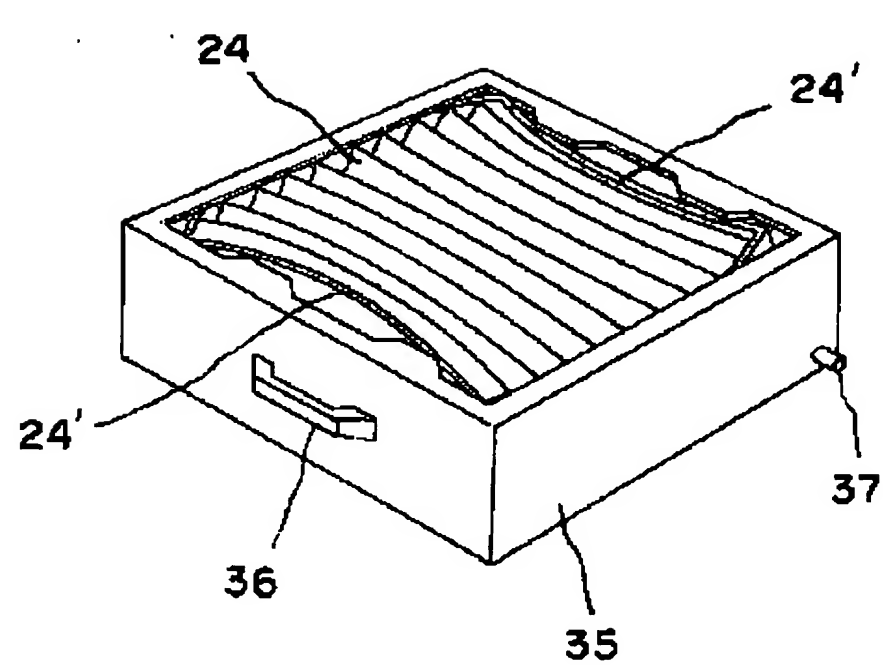
- 11 -- Receiver 12 -- Cigarette end container
13 -- Trash box 14 -- Opening
15 -- Opening 16 -- Bridge wall
17 -- Ash pan kick plate 18 -- Guide plate
19 -- Slit 20 -- Fireman plate
21 -- Air cleaner 22 -- Support lever
23 -- Tubed case 24 -- Dust collection filter
25 -- Odor removal filter 26 -- Filter unit
27 -- Blower 28 -- Piece of ****
29 -- Superior lamella 30 -- Flange
31 -- Door 32 -- Door
33 -- Door 34 -- Door
35 -- Filter unit frame 36 -- Toride
37 -- Guide pin 38 -- Filter case
39 -- Guide rail 40 -- Flange
41 -- Seal member

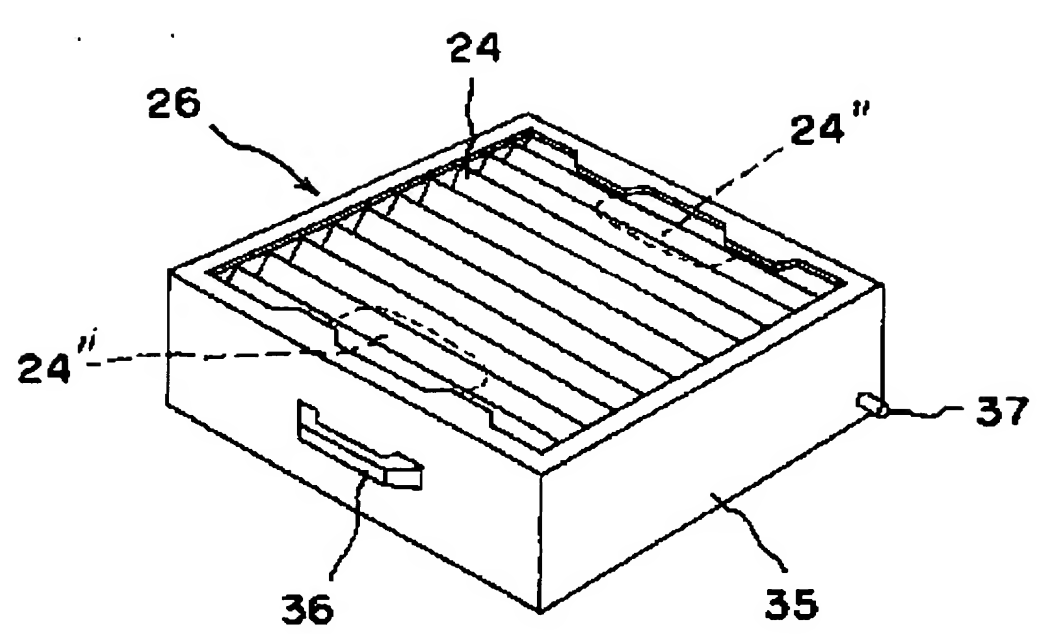
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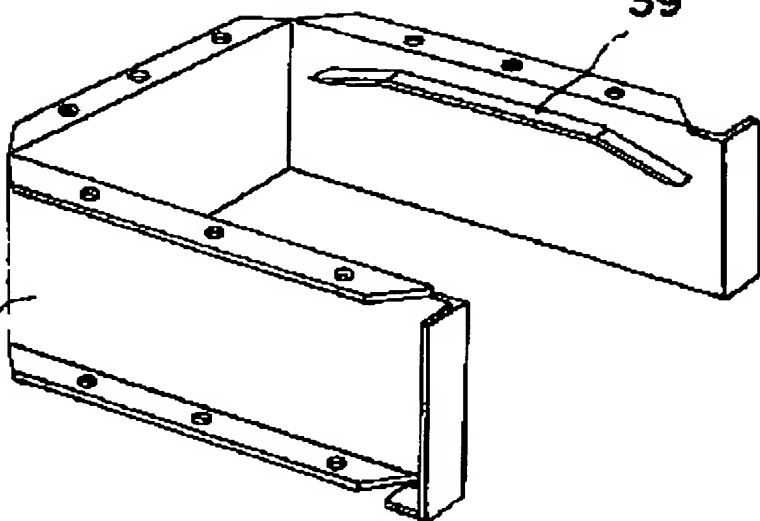


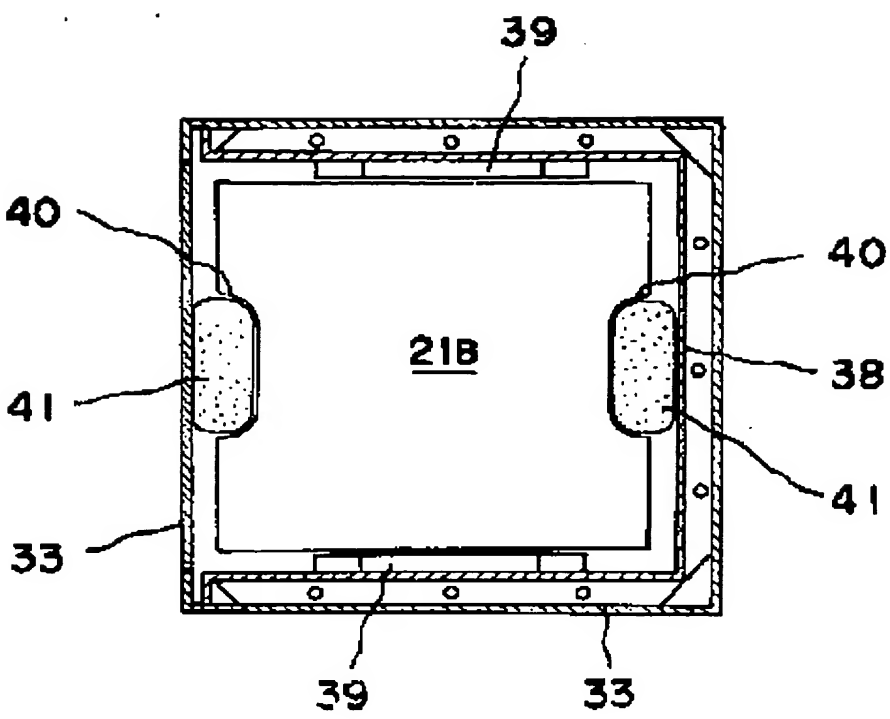


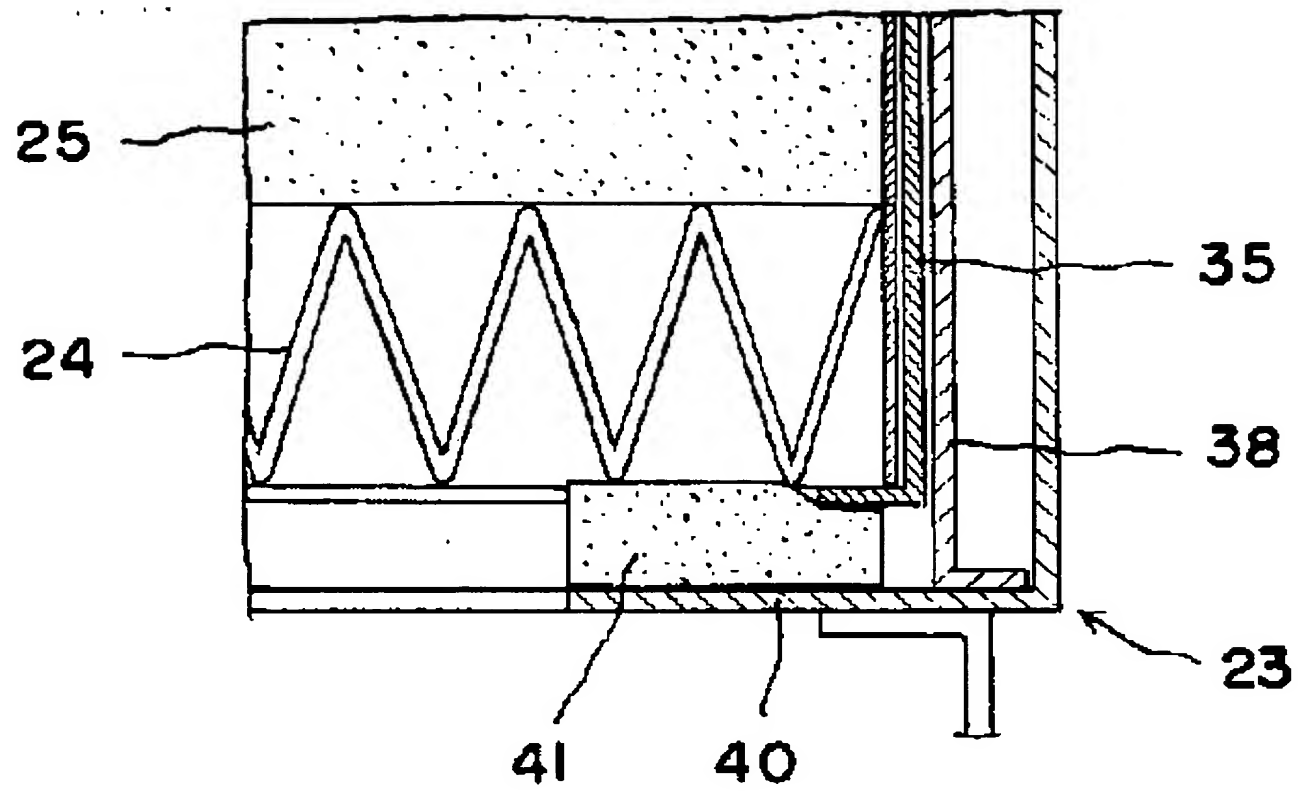


38

39







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